IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	:	10/643,743
APPLICANT	:	Réal LEMIEUX et al.
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EXAMINER	:	SCHWADRON, Ronald B.
Docket No.	:	701826-054340
FOR	:	"PURIFICATION OF POLYREACTIVE AUTOANTIBODIES AND USES THEREOF"

DECLARATION UNDER 37 C.F.R. SEC. 1.132

I, Réal Lemieux, do hereby declare and state as follows:

1. I received the degrees of Bachelor of Sciences (Biochemistry) from Laval University (Québec, Canada) in 1975, and Doctor of Philosophy (Science) from Laval University in 1980.

2. My academic background and experience in the field of the present invention are listed in the enclosed *curriculum vitae*.

3. I am Vice-President, R&D, of Héma-Québec since 1998.

4. I am an author of several scholarly publications as listed in my enclosed *curriculum vitae*.

5. I am an inventor in the present application; I have read and am thoroughly familiar with the contents of U.S. Patent Application Serial No. 10/643,743, entitled "PURIFICATION OF POLYREACTIVE AUTOANTIBODIES AND USES THEREOF", including the claims.

6. I have also read and understood the latest Official Action from the PTO dated July 9, 2007. In this Office Action, certain claims were rejected under 35 USC § 102(b) as being anticipated by Bourel *et al.*

7. The following experiments had previously been performed in February 2007, under my supervision, to illustrate that the polyreactivity profiles of IVIg purified on serum proteins (other than IgG) and of IVIg purified on DNP affinity columns (as described in Bourel *et al.*) are qualitatively different and represent two distinct formulations of IVIg fractionation products.

Experimental goal: Compare the polyreactivity profiles of IVIg purified on serum proteins (other than IgG) *vs.* purified on DNP affinity columns.

Hypothesis: Polyreactivity profiles of IVIg purified on serum proteins (other than IgG) and of IVIg purified on DNP affinity columns are qualitatively different.

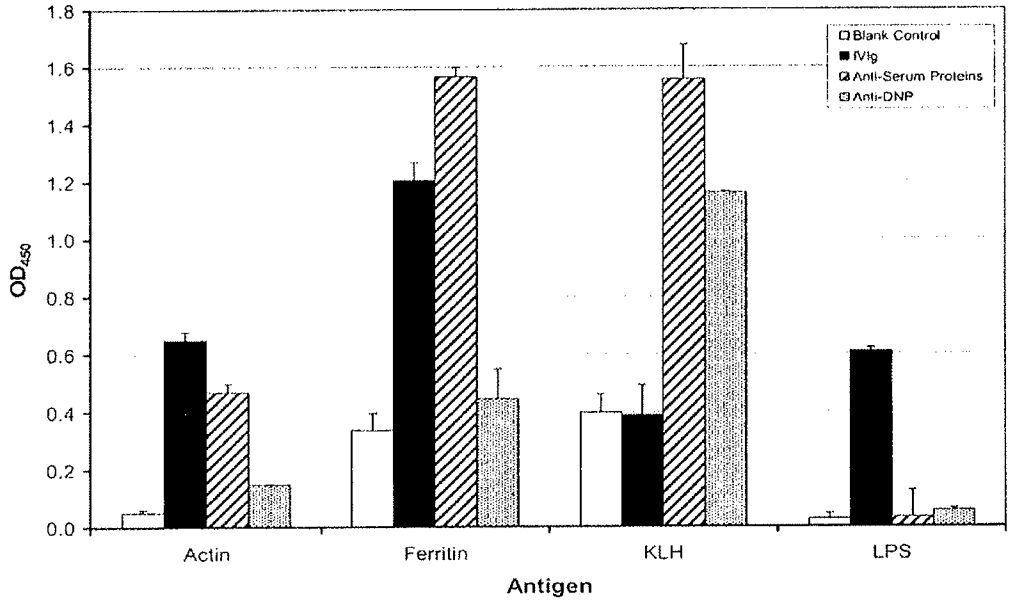
Materials and Methods: To compare the polyreactivity of IVIg-purified anti-DNP antibodies with serum proteins-purified IVIg described in U.S. Patent Application Serial No. 10/643,743, a DNP affinity column was prepared and used for the fractionation of IVIg. IVIg fractions obtained by affinity chromatography on either serum proteins (other than IgG) or DNP were tested for reactivity against a panel of four antigens (actin, ferritin, keyhole limpet hemocyanin (KLH), and lipopolysaccharide (LPS)) by ELISA. For the preparation of a DNP affinity column, Nε-DNP-L-lysine hydrochloride (Sigma-Aldrich Canada Ltd., Oakville, Ont., Canada) was used as coupling reagent onto a 1-ml HiTrap NHS-activated HP column (GE Healthcare Bio-Sciences, Baie d'Urfé, Qc, Canada), according to the manufacturer's recommendations. Affinity chromatography of IVIg over the DNP column was performed essentially according to a method reported previously in Bourel *et* al. The IgIV formulation used is GAMUNEX® (Talecris Biotherapeutics Canada, Toronto, Ont.). Bourel *et al.* used the TEGELINE® IgIV formulation which is similar to the GAMUNEX® formulation. 3mg of IGIV was deposit on the 1-ml HiTrap NHS-activated HP column as described in Bruley-Rosset *et al.* The polyreactivity of the eluted

material from this affinity chromatography was compared to that of IVIg purified on serum proteins by ELISA. The results of these experiments are set forth in Table 1 and Figure 1 below. Histograms report OD_{490} values, with error bars representing standard deviations.

Table 1: Histograms report of the comparative polyreactivities profiles of IVIg purified on serum proteins (other than IgG) *vs.* purified on DNP affinity columns.

Test Material	Actin		Ferritin		KLH		LPS	
	OD_{450}	Std. Dev.	OD_{450}	Std. Dev.	OD_{450}	Std. Dev.	OD_{450}	Std. Dev.
Blank Control	0.051	0.009	0.336	0.029	0.398	0.030	0.027	0.002
IVIg	0.649	0.059	1.204	0.063	0.389	0.031	0.608	0.104
Anti-Serum Proteins	0.469	0.063	1.566	0.105	1.556	0.121	0.034	0.004
Anti-DNP	0.149	0.019	0.445	0.013	1.160	0.093	0.056	0.008

Figure 1: Comparative polyreactivities of anti-serum proteins vs anti-DNP purified from IVIg.



Conclusion: As shown in Figure 1, the two preparations show distinct polyreactivity patterns. Differences are particularly obvious for actin and ferritin.

8. This result, produced according to the teaching of the present invention, clearly proves that one skilled would acknowledge that the polyreactivity profiles of IVIg purified on serum proteins (other than IgG) and of IVIg purified on DNP affinity columns are qualitatively different.

9. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by a fine or imprisonment, or both (18 U.S.C. Sec. 1001), and may jeopardize the validity of the application of any patent issuing thereon.

Signed _____ Dated: Oct 1, 2007

Réal Lemieux